

## Notice of Allowability

Application No.

10/705,451

Examiner

Ted M. Wang

Applicant(s)

YONG-WOON, KIM

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/30/2007 IDS submission.
2. ☒ The allowed claim(s) is/are 5,8-12,14-16 and 18-29.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement (IDS) submitted on 10/30/2007 was filed after the mailing date of the Notice of Allowance on 09/10/2007. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Examiner Statements*

2. The following **Examiner Amendments** and **Allowable Subject Matter** sections are the exact copy of the previous Notice of Allowance issued on 09/10/2007. The telephone interview summary with respect to the **Examiner Amendments** shown below had also been issued on 9/10/2007.

### *Examiner Amendments*

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Applicant's representative David Mello on August 29, 2007.

5. The application has been amended as follows:

In the claims:

- ☐ Cancel claims 1-4, 6, 7, 13 and 17.

- Claim 5, line 2; change "FIFO" to --- First in First out (FIFO) ---.
- Claim 5, line 10, before "." insert ---, wherein during the controlling step (a), one of two consecutive sample signals output by the FIFO synchronizer of the transmitter is user data and the other of the two consecutive sample signals is non-zero data ---.
- Claim 10, line 3, before "time" change "the" to --- a ---.
- Claim 12, line 15, before "." insert ---, wherein the echo cancellation circuit comprises:
  - a first delay unit for delaying a signal output by the transmitter as a first delayed signal;
  - an echo canceller for receiving the first delayed signal output by the first delay unit and removing echoes of the signal transmitted through the channel and received by the receiver; and
  - a second delay unit for delaying a signal output by the echo canceller as a second delayed signal and for supplying the receiver with the second delayed signal ---.
- Claim 14, line 6, change "FIFO" to --- First in First out (FIFO) ---.
- Claim 14, line 29, before "." insert ---, wherein, when in a normal mode, one of two consecutive sample signals output by the FIFO buffer is user data and the other of the two consecutive sample signals is zero ---.
- Claim 18, change "17" to --- 14 ---.

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- Claim 26, lines 3 and 4, change “4 (delay time of the first delay unit)” to “4(delay time of the first delay unit)”.

***Allowable Subject Matter***

6. Claims 5, 8-12, 14-16 and 18-29 are allowed.

7. The following is an examiner's statement of reasons for allowance.

- The prior art fails to teach an apparatus of Claims 5, 12 and 14 that specifically comprises the following:
  - The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. US 6,990,083, US 7023,812, US 6,891,948, and US 5,384,806. The improvement comprises:

With claims 5 and 14, “wherein during the controlling step (a), one of two consecutive sample signals output by the FIFO synchronizer of the transmitter is user data and the other of the two consecutive sample signals is non-zero data” as recited in combination with other limitation as claimed in claims 5 and 14, respectively;

With claim 12, “a first delay unit for delaying a signal output by the transmitter as a first delayed signal; an echo canceller for receiving the first delayed signal output by the first delay unit and removing echoes of the signal transmitted through the channel and received by the receiver; and a second delay unit for delaying a signal output by the echo canceller as a second delayed signal and for supplying the receiver with the second

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delayed signal" as recited in combination with other limitation as claimed in claim 12;

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

9. Reference(s) US 7023,812 and US 6,891,948 are cited because they are put pertinent to the echo cancellation and FIFO circuits. However, none of references teach detailed connection as recited in claim.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is (571) 272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Ted M Wang

Examiner

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Ted M. Wang

A handwritten signature in black ink, appearing to read 'Ted M. Wang', is positioned to the right of the printed name.